CLAIMS

1. A method comprising:

measuring drift of a clock within an implantable medical device; and

generating a correction factor to correct for the drift.

2. The method of claim 1, wherein measuring further comprises:

detecting a first time output from the clock of the implantable medical device at a first time;

detecting a first time output from a reference clock at the first time;

detecting a second time output from the clock of the implantable medical device at a second time;

detecting a second time output from the reference clock; and

calculating the drift based on the difference between the second time output from the clock of the implantable medical device and the second time output from the reference clock.

3. The method of claim 2, wherein calculating the drift includes determining a slope of a divergence between a first timeline defined between the first time and the second time for the clock of the implantable medical device and a second time line defined between the first time and the second time for the reference clock.

4. The method of claim 1, further comprising:

correlating time data from the clock to a reference time frame by correcting for the drift.

5. The method of claim 4, wherein the time data is received at a programmer and then correlated.

6. The method of claim 1, further comprising:
programming the implantable medical device with the correction factor.

7. The method of claim 1, further comprising:
identifying lost time; and
correcting the lost time.

8. The method of claim 7, wherein identifying lost time includes identifying periods of therapy delivery.

9. The method of claim 7, wherein correcting includes modifying data from the IMD so that the lost time is added back to the data temporally proximate where the time was lost.

10. An apparatus for correlating time data from an implantable medical device comprising:
communication means for communicating with and receiving time data from an implantable medical device;
measuring means for determining an amount of drift in the time data relative to a reference time; and
correction means for correcting the data by removing the drift so that the corrected data correlated to the reference time.

11. The apparatus of claim 10, further comprising:
means for determining lost time; and
means for correcting for the lost time.

12. The apparatus of claim 10, further comprising:
means for determining differences between the time data and the reference time due to time zone variations; and

means for modifying the time data to eliminate the differences due to time zone variations.

13. The apparatus of claim 10, further comprising:

measuring means for measuring a frequency of an oscillator within a clock circuit of the implantable medical device; and

programming means for generating a correction factor to correlate the frequency to a standard time format.

14. The apparatus of claim 10, further comprising means for simultaneously synchronizing time data from multiple implantable medical devices to the reference time.

15. A programmer for correlating time data from an implantable medical device to a reference time, the programmer comprising:

a communication link communicatively coupleable to an implantable medical device (IMD) for receiving IMD time data;

a reference clock providing reference time data; and

a calibrating module that receives the IMD time data and the reference time data, measures drift in the IMD data, and generates a correction factor.

16. The programmer of claim 15, wherein the calibrating module is operatively coupled with the communication link so that the correction factor is programmed into the IMD.

17. The programmer of claim 15, wherein the calibrating module measures drift based on an algorithm that determines a slope of a divergence between the IMD time data and the reference data.

18. The programmer of claim 15, wherein the calibrating module further includes an algorithm for identifying periods of therapy delivered by the IMD that result in lost time and correcting for the lost time.

19. A computer readable medium containing instructions that when executed on an electronic device cause the electronic device to perform the following functions:

measuring a drift of a clock within an implantable medical device; and

generating a correction factor to correct for the drift.

20. The medium of claim 19 wherein measure further comprises:

detecting a first time output from the clock of the implantable medical device at a first time;

detecting a first time output from a reference clock at the first time;

detecting a second time output from the clock of the implantable medical device at a second time;

detecting a second time output from the reference clock; and

calculating the drift based on the difference between the second time output from the clock of the implantable medical device and the second time output from the reference clock.

21. The medium of claim 20, wherein calculating the drift includes determining a slope of a divergence between a first timeline defined between the first time and the second time for the clock of the implantable medical device and a second time line defined between the first time and the second time for the reference clock.

22. The medium of claim 20, further including correlating time data from the clock to a reference time frame by correcting for the drift.

23. The medium of claim 20, wherein the instructions cause the electronic device to program programming the implantable medical device with a correction factor that corrects for the drift.